In re Patent Application of
ALBERICI
Serial No. **Not Yet Assigned**
Filed: **Herewith**
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In the Claims:

Claims 1-2 (Cancelled).

3. (New) An electron spectroscope comprising:

a field emission source producing an electron beam for exciting a surface of a sample so that electrons are emitted therefrom;

a monochromator energy filter for filtering the electron beam;

a spherical capacitor energy analyzer comprising an inlet receiving the electrons emitted from the excited surface of the sample, with the emitted electrons being decelerated and focused on the inlet and producing a spectrum representative of a distribution of kinetic energies of the emitted electrons over the inlet; and

a detector for detecting the emitted electrons traveling through said spherical capacitor energy analyzer for reproducing the distribution of the kinetic energies of the emitted electrons along at least a direction orthogonal to a radial direction of said spherical capacitor energy analyzer.

4. (New) An electroscope system according to Claim 3, wherein said monochromator energy filter reduces energy dispersion of the electrons of the electron beam to less than 0.2 eV.

5. (New) An electroscope system according to Claim 3, wherein said monochromator energy filter reduces energy dispersion of the electrons of the electron beam to less than 0.1 eV.

6. (New) An electroscope system according to Claim 3, wherein the surface of the sample being excited by the electronic beam has linear dimensions less than or equal to 100 nanometers.

7. (New) An electroscope system according to Claim 3, wherein said field emission source comprises a Schottky emission source.

8. (New) An electron spectroscope comprising:

a field emission source producing an electron beam for exciting a surface of a sample so that electrons are emitted therefrom;

a monochromator energy filter for filtering the electron beam;

an energy analyzer comprising an inlet receiving the electrons emitted from the excited surface of the sample, with the emitted electrons producing a spectrum representative of a distribution of kinetic energies of the emitted electrons over the inlet; and

a detector for detecting the emitted electrons traveling through said energy analyzer for reproducing the distribution of the kinetic energies of the emitted electrons.

9. (New) An electroscope system according to Claim 8, wherein said detector reproduces the distribution of the kinetic energies of the emitted electrons along at least a direction orthogonal to a radial direction of said energy analyzer.

10. (New) An electroscope system according to Claim 8, wherein said energy analyzer comprises a spherical capacitor energy analyzer.

11. (New) An electroscope system according to Claim 8, wherein said monochromator energy filter reduces energy dispersion of the electrons of the electron beam to less than 0.2 eV.

12. (New) An electroscope system according to Claim 8, wherein said monochromator energy filter reduces energy dispersion of the electrons of the electron beam to less than 0.1 eV.

13. (New) An electroscope system according to Claim 8, wherein the surface of the sample being excited by the electronic beam has linear dimensions less than or equal to 100 nanometers.

14. (New) An electroscope system according to Claim 8, wherein said field emission source comprises a Schottky emission source.

15. (New) A method for analyzing a surface of a sample comprising:

producing an electron beam with a field emission source for exciting a surface of the sample so that electrons are emitted therefrom;

filtering the electron beam using a monochromator energy filter;

receiving on an inlet of an energy analyzer the

electrons emitted from the excited surface of the sample, with the emitted electrons producing a spectrum representative of a distribution of kinetic energies of the emitted electrons over the inlet; and

detecting the emitted electrons traveling through the energy analyzer for reproducing the distribution of the kinetic energies of the emitted electrons.

16. (New) A method according to Claim 15, wherein the detector reproduces the distribution of the kinetic energies of the emitted electrons along at least a direction orthogonal to a radial direction of said energy analyzer.

17. (New) A method according to Claim 15, wherein the energy analyzer comprises a spherical capacitor energy analyzer.

18. (New) A method according to Claim 15, wherein the monochromator energy filter reduces energy dispersion of the electrons of the electron beam to less than 0.2 eV.

19. (New) A method according to Claim 15, wherein the monochromator energy filter reduces energy dispersion of the electrons of the electron beam to less than 0.1 eV.

20. (New) A method according to Claim 15, wherein the surface of the sample being excited by
the electronic beam has linear dimensions less than or equal to 100 nanometers.

21. (New) A method according to Claim 15, wherein

the field emission source comprises a Schottky emission source.